

03/19/14 Agenda

- Warm Up
- Chapter 8 day 3 - Multiplying Special Cases
- Homework
 - Worksheet 3 - Multiplying Polynomials

Warm Up



Put your name on a slip of paper.

Simplify:

$$(8r + 7)(3r - 3)$$

$$24r^2 - \underline{24r} + \underline{21r} - 21$$

$$24r^2 - 3r - 21$$

	$8r$	$+7$
$3r$	$24r^2$	$+ \underline{21r}$
-3	$- \underline{24r}$	-21

$$24r^2 - 3r - 21$$

Try it out!

$(x + 5)(2x - 3)$

$x + 5$
 $2x$
 -3

$2x^2 + 10x$	
$-3x - 15$	

 Final answer: $2x^2 + 7x - 15$

$(7 - y)(8y - 2)$

$7 - y$
 $8y$
 -2

$56y$	$-8y^2$
-14	$+2y$

Final answer: _____

$58y - 8y^2 - 14$

Find the product. Either double distribute or use the box method.

$(p - 2)(-p^2 - 3p + 5)$

$-p^2 - 3p + 5$
 p
 -2

$-p^3$	$-3p^2 + 5p$
$+2p^2$	$+6p - 10$

 $-p^3 - 3p^2 + 5p + 2p^2 + 6p - 10$
 $-p^3 - 1p^2 + 11p - 10$
 Final answer: _____

$(3x + 4)(x^2 + x - 3)$

$3x^3 + 7x^2 - 5x - 12$

Final answer: _____

$x^2 + x - 3$
 $3x$
 $+4$

$3x^3$	$+3x^2$	$-9x$
$+4x^2$	$+4x$	-12

$(4f^2 - 3f - 1)(2f - 5)$

Final answer: _____

Try these out:

Try distributing

$$(x-4)(x+4)$$

$$x^2 + 4x - 4x - 16$$

$$x^2 - 16$$

Try area method

$$(2n+3)(2n-3)$$

$2n$	$4n^2 + 6n$
-3	$-6n - 9$

$$4n^2 - 9$$

$$(y+5)(y-5)$$

$$y^2 - 5y + 5y - 25$$

$$y^2 - 25$$

$$(4t+1)(4t-1)$$

FIRST	$4t \cdot 4t = 16t^2$
OUTER	$4t \cdot -1 = -4t$
INNER	$+1 \cdot 4t = +4t$
LAST	$1 \cdot -1 = -1$

$$16t^2 - 1$$

$$(h+7)(h-7)$$

$$h^2 - 7h + 7h - 49$$

$$h^2 - 49$$

$$(a+b)(a-b)$$

$$a^2 - b^2$$

What sort of pattern do you see here?

- TERMS ARE THE SAME BUT ONE HAS A PLUS AND THE OTHER A MINUS

$$(y+5)(y-5)$$

- "MIDDLE" EXPRESSIONS CANCEL EACH OTHER OUT

- THE LAST TERM IS NEGATIVE

If the answer to a problem is $x^2 - 9$

What was the original question?

$$(x+3)(x-3)$$

What does this mean?

$$(x+4)^2 = (x+4)(x+4)$$

$$x^2 + \underline{4x} + \underline{4x} + 16$$

$$x^2 + 8x + 16$$

Try these:

$$(x+3)^2$$

x^2	$+3x$
$+3x$	$+9$

$$x^2 + 6x + 9$$

$$(3m+1)^2$$

$9m^2$	$+3m$
$+3m$	$+1$

$$9m^2 + 6m + 1$$

$$(5g+2)^2$$

$$25g^2 + \underline{10g} + \underline{10g} + 4$$

$$25g^2 + 20g + 4$$

$$(p-2)^2$$

$$p^2 - 4p + 4$$

$$(6x-4)^2$$

$$(x-y)^2$$

Explain why: $(x+5)^2 \neq x^2 + 5^2$

$$x^2 + 10x + 25 \neq x^2 + 25$$

What sort of pattern do you see here?